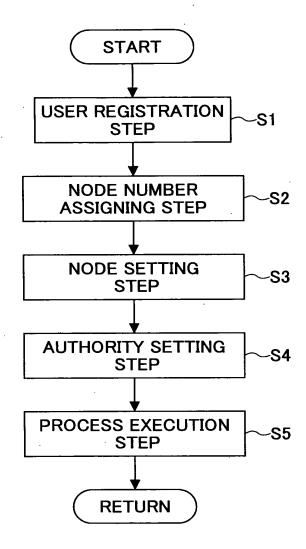
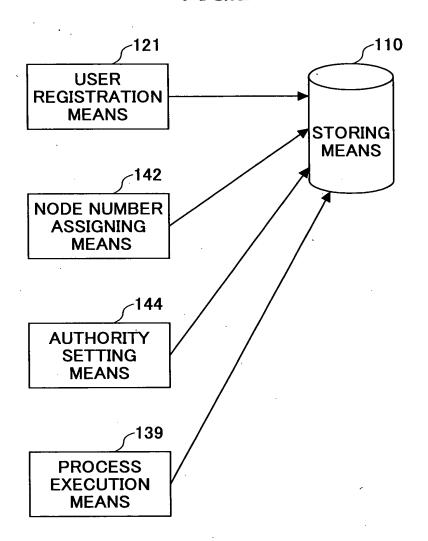
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FIG.1



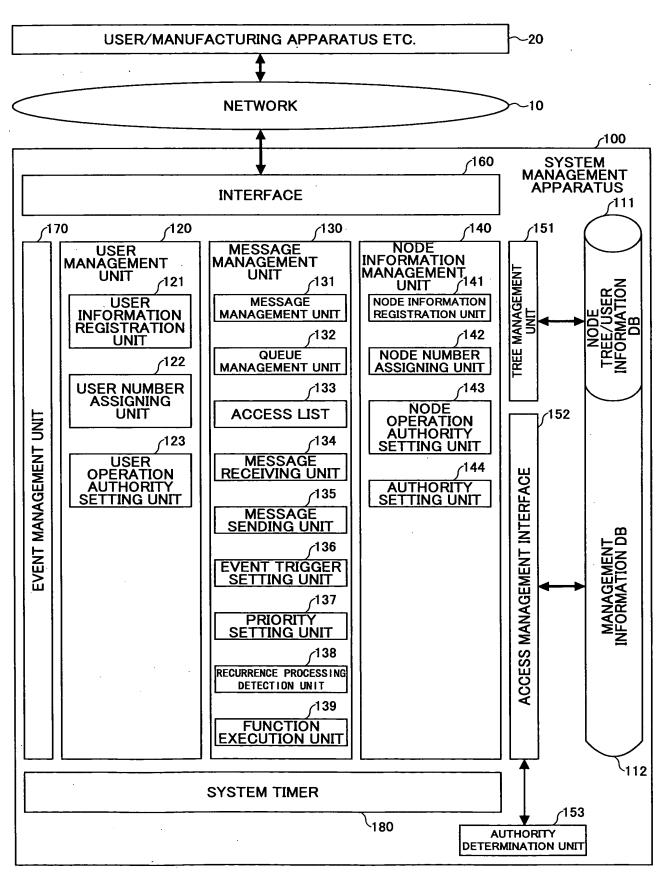
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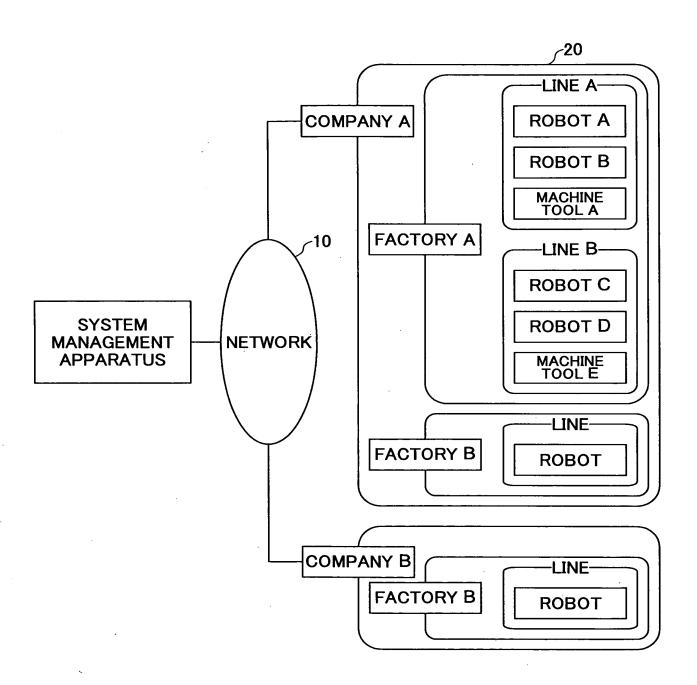
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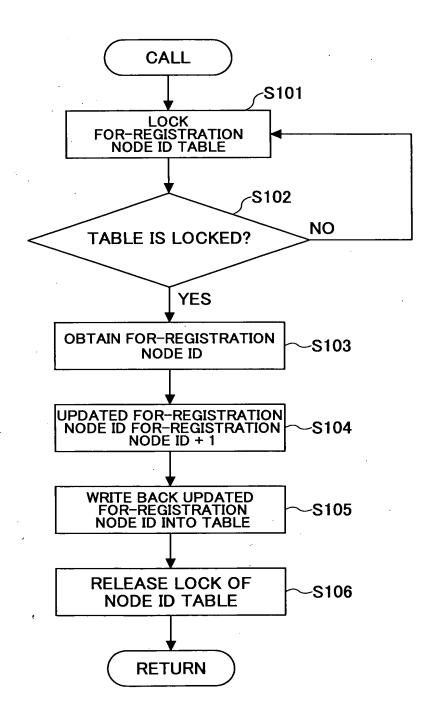
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FIG.4



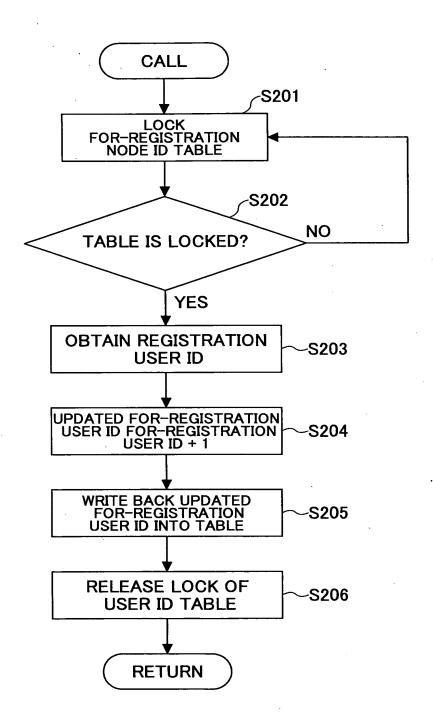
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FIG.5



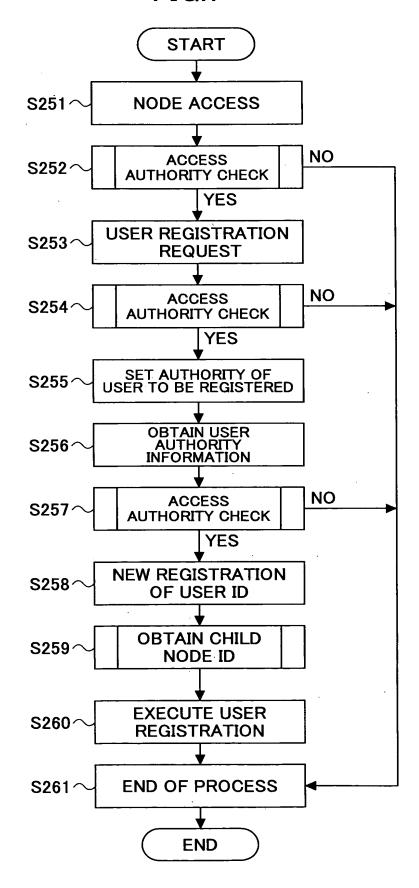
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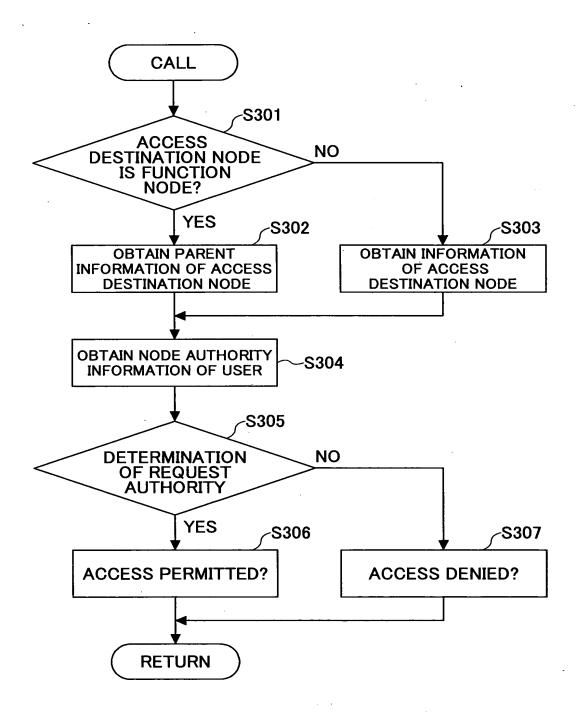
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FIG.7



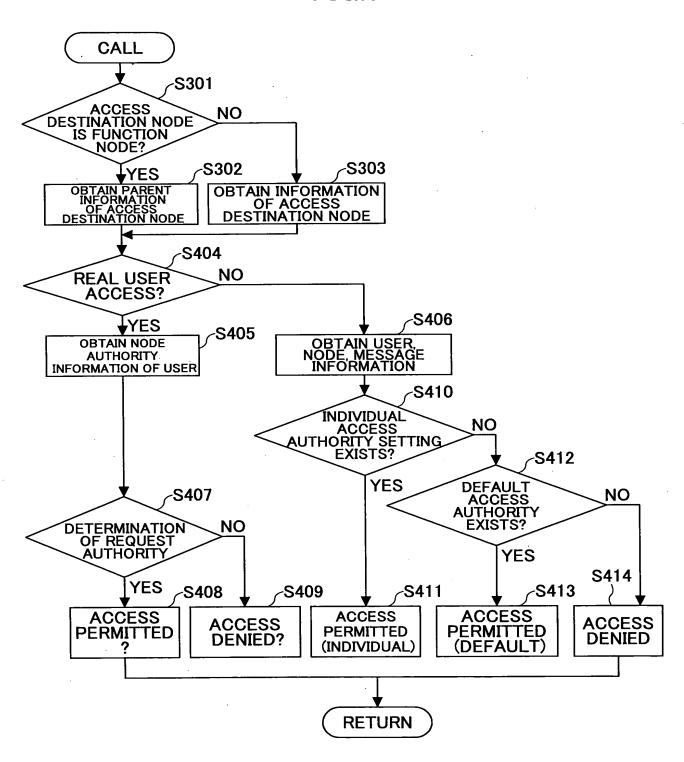
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FIG.8



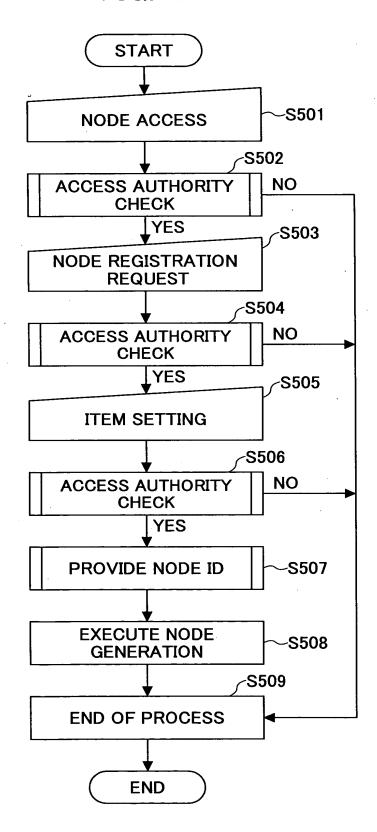
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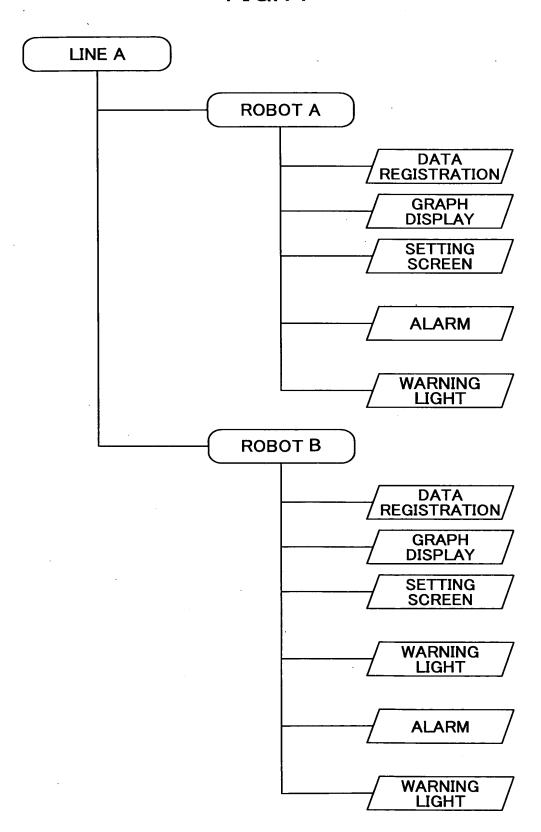
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FIG.10



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FIG.11



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FIG.12

NODE ID	USER ID	NODE ID (FUNCTION)	USER NAME	VIEWING	CHANGE	EXE- CUTION	MANAGE- MENT
101	3		UNREGISTERED USER	×	×	×	×
101	11		ROBOT OPERATOR	0	0	0	0
101	_	2	SYSTEM TIMER	0	×	0	×

NODE ID	PARENT NODE ID	NODE TYPE	NODE NAME
100	•••	• • •	• • •
101	100	GENERAL	LINE A
102	101	GENERAL	ROBOT A
103	101	GENERAL	ROBOT B
104	102	DATA REGISTRATION FUNCTION	DATA REGISTRATION
105	102	ALARM FUNCTION	ALARM
106	102	WARNING LIGHT FUNCTION	WARNING LIGHT
107	•••	•••	• • •

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FIG.14

TIME	NODE ID	DATA TYPE	CHANNEL	VALUE
2001/01/01 00:00:00:001	104	VALUE	SHOULDER JOINT ANGLE	10
2001/01/01 00:00:00:001	104	VALUE	ARM JOINT ANGLE	20
•••	104	VALUE	•••	•••

NODE ID	USER ID	NODE ID (FUNCTION)	USER NAME	VIEWING	CHANGE	EXE-	MANAGE- MENT
101	3	_	UNREGISTERED USER	×	×	×	×
101	11	_	ROBOT OPERATOR	0	0	0	0
101	12		ROBOT MAKER SUPPORT	0	×	×	×
101		2	SYSTEM TIMER	0	×	0	×

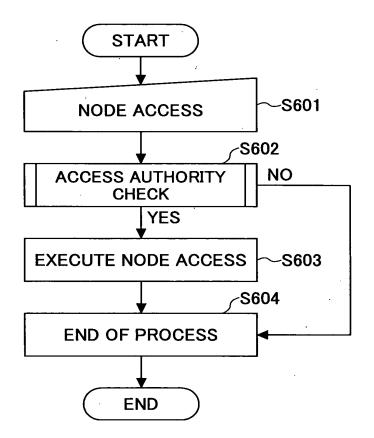
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NODE ID	USER ID	NODE ID (FUNCTION)	USER NAME/ NODE NAME	VIEWING	CHANGE	EXE- CUTION	MANAGE- MENT
102	3		UNREGISTERED USER	0	×	×	×
102	11		ROBOT OPERATOR	0	0	0	0
102	12		ROBOT MAKER SUPPORT	0	×	0	×
102	13		ROBOT DATA TRANSMISSION APPARATUS MANAGER	0	0	0	×
102		2	SYSTEM TIMER	0	×	0	×
102	_	105	ALARM	0	×	0	×
102	_	106	WARNING LIGHT	0	×	-0	×
102		9999	UNREGISTRATION FUNCTION	0	×	×	×

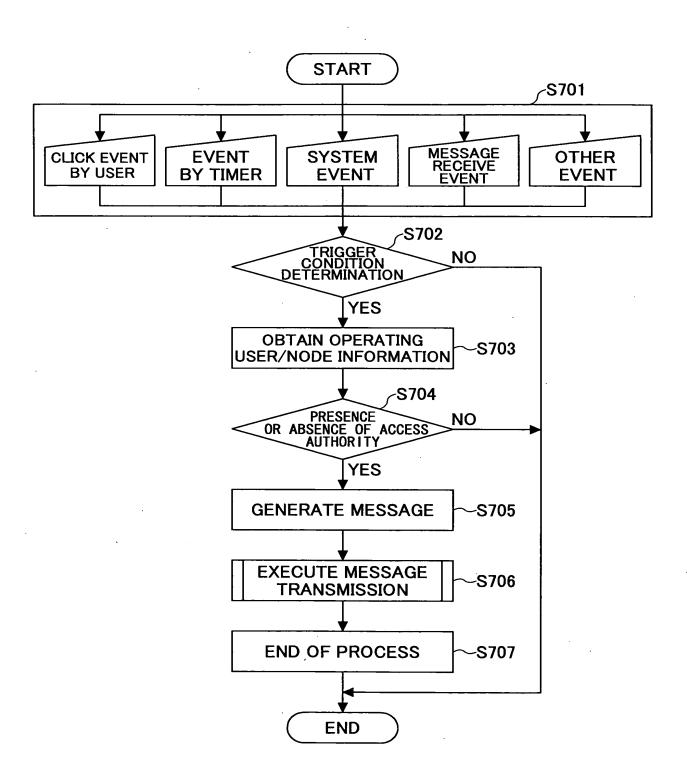
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FIG.17



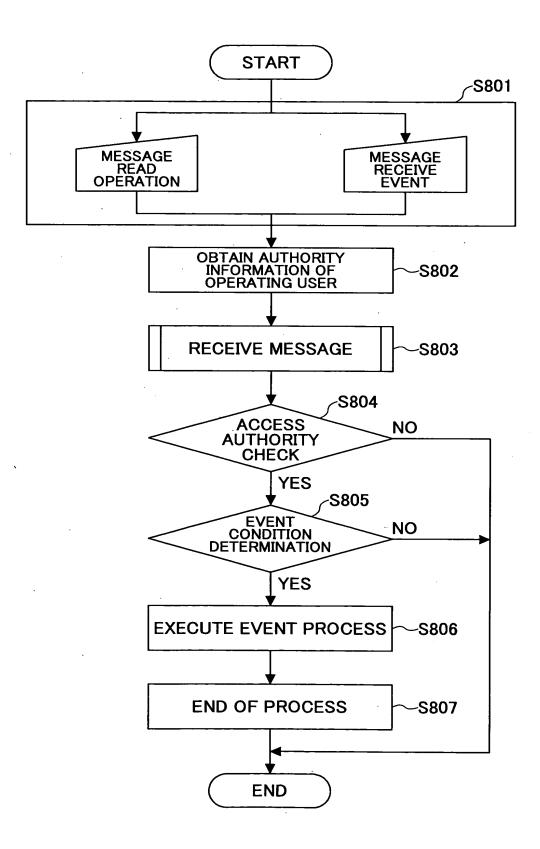
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FIG.18

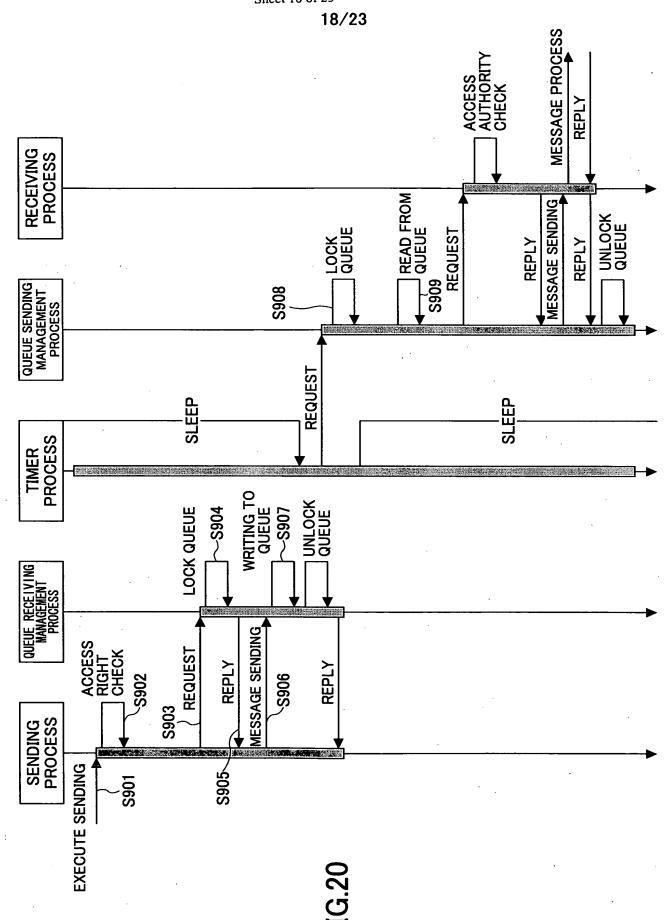


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FIG.19

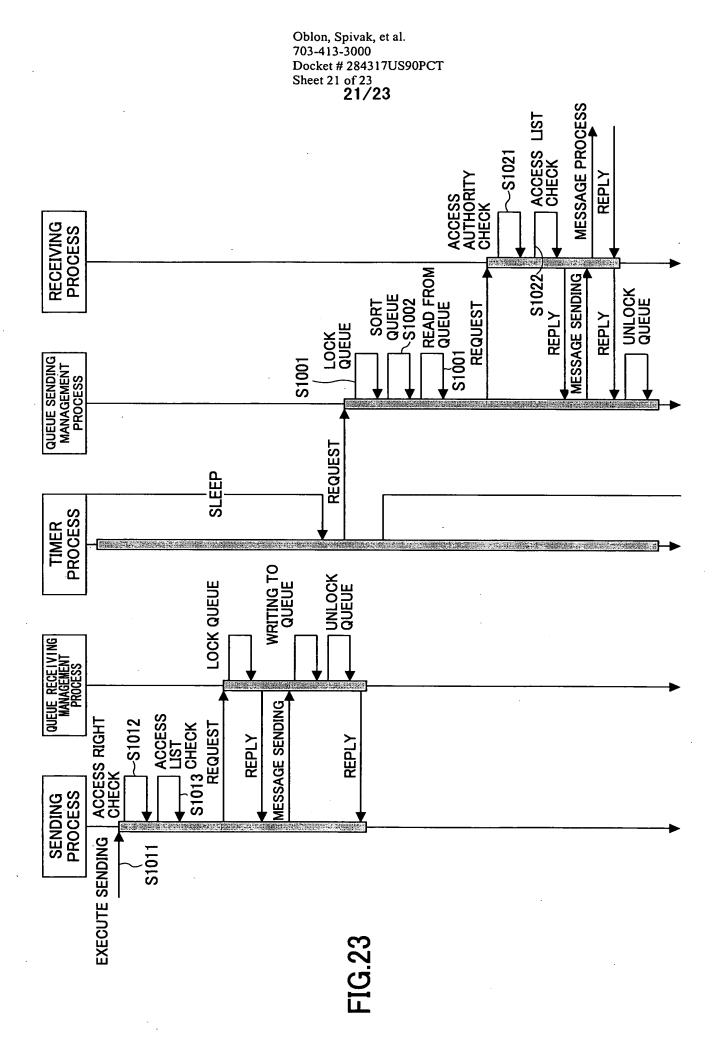


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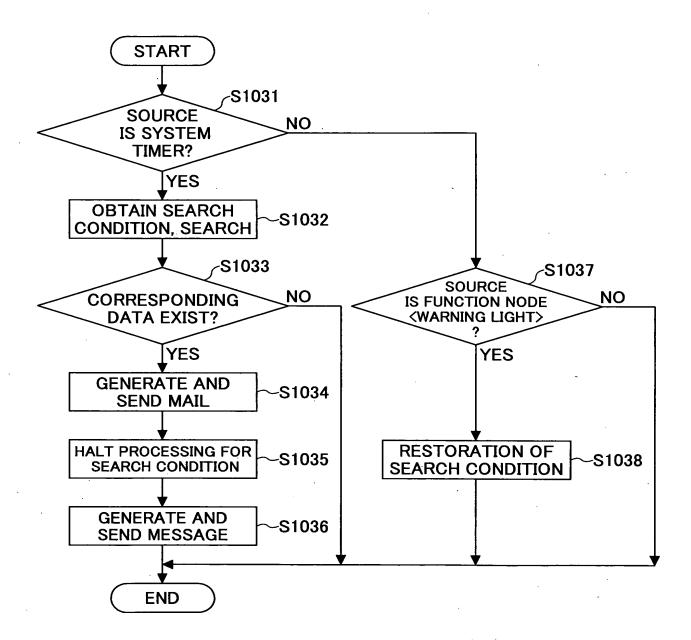
Oblon, Spivak, et al. 703-413-3000 Docket # 284317US90PCT Sheet 19 of 23 19/23 **MESSAGE PROCESS** ACCESS AUTHORITY CHECK REPLY RECEIVING PROCESS READ FROM QUEUE MESSAGE SENDING SORT QUEUE S1002 UNLOCK REQUEST REPLY REPLY LOCK QUEUE QUEUE SENDING MANAGEMENT PROCESS S1001 REQUEST SLEEP SLEEP TIMER PROCESS WRITING TO QUEUE UNLOCK ~S904 LOCK QUEUE QUEUE RECEIVIN MANAGEMENT PROCESS MESSAGE SENDING ACCESS RIGHT CHECK REQUEST REPLY REPLY **S905** 906S-**S**903 SENDING PROCESS **EXECUTE SENDING** S905 **S901**

Oblon, Spivak, et al. 703-413-3000 Docket # 284317US90PCT Sheet 20 of 23 20/23 MESSAGE PROCESS ACCESS LIST CHECK ACCESS AUTHORITY CHECK REPLY RECEIVING PROCESS READ FROM QUEUE MESSAGE SENDING UNLOCK REQUEST REPLY REPLY QUEUE SENDING MANAGEMENT PROCESS REQUEST SLEEP SLEEP TIMER PROCESS WRITING TO QUEUE UNLOCK LOCK QUEUE ACCESS LIST S1013 CHECK MESSAGE SENDING ~S1012 ACCESS RIGHT CHECK REQUEST REPLY REPLY SENDING PROCESS **EXECUTE SENDING S901**



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FIG.24



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